

Making Connections

Turning the Charles W. Cushman Photograph Collection into a Linked Open Data Set

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September 28, 2016

@jlhardes #dlbb

Linked Data

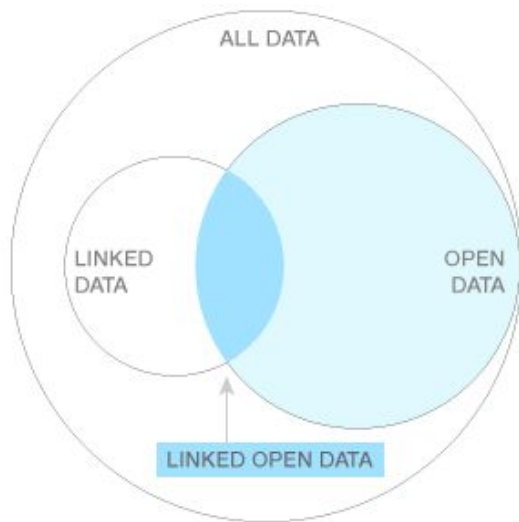
— — —

1. Use URIs as names for things
2. Use HTTP URIs so that people can look up those names.
3. When someone looks up a URI, provide useful information, using the standards (RDF*, SPARQL)
4. Include links to other URIs. so that they can discover more things.

Example: <http://id.loc.gov/authorities/subjects/sh85078519>

Linked Open Data

- Open data = 1 star with open access
- Linked data = next 4 steps, 2-5 stars



5 * Open Data



Tim Berners-Lee. (2006-07-27). *Linked Data*.
<http://www.w3.org/DesignIssues/LinkedData.html>

Peter Gassner. (2011-01-25). *Introduction to Linked Open Data for Visualization Creators*. <https://datavisualization.ch/opinions/introduction-to-linked-data/>

Readings

— — —

Tom Heath and Christian Bizer (2011) Linked Data: Evolving the Web into a Global Data Space (1st edition). Synthesis Lectures on the Semantic Web: Theory and Technology, 1:1, 1-136. Morgan & Claypool. - <http://linkeddatabook.com/editions/1.0/>

Southwick, Silvia B. “A Guide for Transforming Digital Collections Metadata into Linked Data Using Open Source Technologies.” Journal of Library Metadata 15, no. 1 (March 2015): 1-35. doi: <http://dx.doi.org/10.1080/19386389.2015.1007009>



600 pixels, long side

Cushman ID:	451.9
Archives ID:	P05011
Date:	Aug. 1, 1951
Description (Slide):	Student Building Indiana University
Description (Notebook):	Clock tower of the Student Bldg. Clock Tower - Ind Univ. [error]
Street Address:	(None)
Location:	Bloomington , Indiana , United States (Monroe county)

Camera Settings:	50 f 8
Roll Number:	4-51
Frame Number:	9

Personal Names:	(None)
Corporate Names:	Indiana University, Bloomington Indiana University, Bloomington. Student Building
Other Names:	(None)

Genre Headings:	Architectural photographs
Subject Headings:	Clock towers Architectural decorations & ornaments Universities & colleges
Other Subject Headings:	(None)


[view larger image](#) (1000 pixels, long side)

[order this image](#)
[conditions of use and copyright](#)
[return to results page](#)



<http://purl.dlib.indiana.edu/iudl/archives/cushman/P05011>

```
<OAI-PMH xsi:schemaLocation="http://www.openarchives.org/OAI/2.0/ http://www.openarchives.org/OAI/2.0/OAI-PMH.xsd">
  <responseDate>2016-09-11T22:22:26Z</responseDate>
  <request verb="ListRecords" set="cushman" metadataPrefix="oai_dc">http://oai.dlib.indiana.edu/phpoai/oai2.php</request>
- <ListRecords>
  - <record>
    - <header>
      <identifier>oai:oai.dlib.indiana.edu:archives/cushman/P07959</identifier>
      <timestamp>2004-09-10</timestamp>
      <setSpec>cushman</setSpec>
    </header>
    - <metadata>
      - <oai_dc:dc xsi:schemaLocation="http://www.openarchives.org/OAI/2.0/oai_dc/ http://www.openarchives.org/OAI/2.0/oai_dc.xsd">
        <dc:title>Coit Tower from Embarcadero at Filbert St.</dc:title>
        <dc:title>Telegraph Hill from Embarcadero at Filbert</dc:title>
        <dc:creator>Cushman, Charles Weever, 1896-1972</dc:creator>
        <dc:subject>Towers</dc:subject>
        <dc:subject>Trees</dc:subject>
        <dc:subject>Arches</dc:subject>
        <dc:subject>Buildings</dc:subject>
        <dc:subject>Utility poles</dc:subject>
        <dc:subject>Street lights</dc:subject>
        <dc:subject>Hills</dc:subject>
        <dc:subject>Electric lines</dc:subject>
        <dc:subject>Dwellings</dc:subject>
        <dc:subject>Bell towers</dc:subject>
        <dc:subject>Telegraph Hill (San Francisco, Calif.)</dc:subject>
        <dc:subject>Coit Memorial Tower (San Francisco, Calif.)</dc:subject>
        <dc:description>Filbert Street</dc:description>
        <dc:description>Embarcadero</dc:description>
        <dc:publisher>Indiana University. Digital Library Program</dc:publisher>
      - <dc:publisher>
        Indiana University. Bloomington. University Archives
```

http://oai.dlib.indiana.edu/phpoai/oai2.php?verb=ListRecords&set=cushman&metadataPrefix=oai_dc

 This repository Search

Pull requestsIssuesGist

 + 

iulibdcs / cushman_photos


Watch 3Star 2Fork 3



<> CodeIssues 0Pull requests 0WikiPulseGraphsSettings


Metadata from the Charles W. Cushman Photograph Collection published by the Indiana University Libraries and housed by the Indiana University Archives. <http://dlib.indiana.edu/collections/cushman/> — Edit

5 commits1 branch0 releases1 contributor

Branch: masterNew pull requestCreate new fileUpload filesFind fileClone or download

 mdalmau added info about CVs used and link to OAI-OMH data setLatest commit 0480f0c on Feb 17, 2014

 README.md	added info about CVs used and link to OAI-OMH data set	3 years ago
 cushman_metadata.csv	adding metadata	3 years ago

 README.md

Overview

The [Charles W. Cushman Photograph Collection](#), initially published in late 2003 by the Indiana University Libraries in partnership with the Indiana University Archives, is one of our most visited digital special collections, with nearly nine million hits to date. Charles Cushman, amateur photographer and Indiana University alumnus, is regarded for his early

https://github.com/iulibdcs/cushman_photos

Microsoft Excel interface showing a spreadsheet titled "cushman_metadata.csv". The ribbon includes Home, Layout, Tables, Charts, SmartArt, Formulas, Data, and Review. The spreadsheet contains columns A through R, with data rows 1 through 10. The data includes URLs, IDs, numbers, dates, and descriptions.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PURL	JU Archives	Cushman nu	Roll ID	Roll number	Year	Frame numb	Start Date	End Date	Archive Date	Month Unkn	Day Unknown	Camera setti	Asterisk	Description f	Description f	Image Note	No Slide Exis
2	http://purl.d	1411	138.5	406	1	38	5	9/3/38		Sep. 3, 1938	FALSE	FALSE		FALSE	A-5 = G. G. br	A-5 = Golden Gate Bridge		FALSE
3	http://purl.d	1412	138.8	406	1	38	8	9/3/38	9/4/38	Sep. 3, 1938	FALSE	TRUE		FALSE	A-8=Red Fori	A-8=Golden gate		FALSE
4	http://purl.d	1413	138.9	406	1	38	9	9/3/38	9/4/38	Sep. 3, 1938	FALSE	TRUE		FALSE	A-9= G G bric			FALSE
5	http://purl.d	1414	138.1	406	1	38	10	9/3/38		Sep. 3, 1938	FALSE	FALSE		FALSE	A-10= Burbank	In Burbank Garden		FALSE
6	http://purl.d	1415	138.11	406	1	38	11	9/3/38		Sep. 3, 1938	FALSE	FALSE		FALSE	A-11= Burbank	in Burbank Garden		FALSE
7	http://purl.d	1416	138.12	406	1	38	12	9/3/38	9/4/38	Sep. 3, 1938	FALSE	TRUE		FALSE	A-12=Burbar	Santa Rosa, Calif.		FALSE
8	http://purl.d	1417	138.13	406	1	38	13	9/3/38	9/4/38	Sep. 3, 1938	FALSE	TRUE		FALSE	A-13= Plume	Santa Rosa		FALSE
9	http://purl.d	1418	138.14	406	1	38	14	9/3/38		Sep. 3, 1938	FALSE	FALSE		FALSE	* A-14 = A ro			FALSE
10	http://purl.d	1419	138.16	406	1	38	16	9/3/38		Sep. 3, 1938	FALSE	FALSE		FALSE	A-16 = Cal. c	A-16=US101 =		FALSE

Connections

— — —

- Subjects and genres are authorized forms, available as Linked Data (TGM and LCAF)
- Locations are authorized forms (TGN and LCAF) and can be pinpointed on a map (latitude and longitude points)
- Personal names (LCAF)

OpenRefine

— — —


- Nick Philip, ILS student, Metadata Intern Spring 2016
- Abby Niederman, ILS student, Metadata Intern Summer 2016



<http://openrefine.org>






Open Refine



— — —
Notebook




OpenRefine Instructions ☆ 📁

File Edit View Insert Format Tools Table Add-ons Help Last edit was yesterday at 10:37 AM

    100% 

 Viewing 

 Share

jhardes@iu.edu ▾

A Guide to Creating an OpenRefine Project Using the Charles W. Cushman Photograph Collection Metadata Dataset

Nick Philip, Spring 2016 Metadata Intern
Abby Niederman, Summer 2016 Metadata Intern
Department of Information and Library Science, School of Informatics and Computing
Indiana University Libraries
Indiana University

Getting Started:

1. Download OpenRefine from <http://openrefine.org/download.html>. We used version 2.6, but a newer version may be available when you are reading this.
2. Download RDF Extension from <https://github.com/fadmaa/grefine-rdf-extension/downloads>. Once you download and extract the file, rename it rdf-extension and move it to your extensions folder in the OpenRefine File on your desktop. The extensions folder is located under webapp.
3. Create your project in OpenRefine. You must be using Google Chrome for the program to work. The program can be started on Windows by clicking on the OpenRefine application on your desktop, which will open up a window in your browser. On a Mac, you can start the application and then go to <http://127.0.0.1:3333/> in Chrome. Several different formats can be uploaded, including CSV, Excel, JSON, XML, RDF/XML, and Google Data. For the Cushman Collection (found here at https://github.com/iulibdcs/cushman_photos), We used CSV, but we also experimented

<https://docs.google.com/document/d/1rvVOc69NJtNacTqgmKoliOBGDdYl4J1-qqIcRuFrou0/edit?usp=sharing>

Open Refine

Genres
Subjects

tadata csv [Permalink](#)

[Open...](#) [Export ▾](#) [Help](#)

14425 records

Extensions: [undefined ▾](#) [RDF ▾](#)

Show as: [rows](#) **records** Show: [5](#) [10](#) [25](#) [50](#) records

« first < previous **1 - 10** next > last »

	Genre 2	Genre 2 URI	Genre 3	Genre 3 URI	Genre 4	Genre 4 URI	Topical Subject	Topical Subject Headings 1 URI	Topical S
9	Identification photographs Choose new match	http://id.loc.gov/vocabulary/graphicMaterials/tgm000665 edit					Automobiles Choose new match	http://id.loc.gov/vocabulary/graphicMaterials/tgm000665	People Choose new mat
4	Identification photographs Choose new match	http://id.loc.gov/vocabulary/graphicMaterials/tgm005292					Mountains Choose new match	http://id.loc.gov/vocabulary/graphicMaterials/tgm006835	Buildings Choose new mat

Reconciliation: a definition

— — —

“A reconciliation service is a web service that, given some text which is a name or label for something, and optionally some additional details, returns a ranked list of potential entities matching the criteria. The candidate text does not have to match each entity's official name perfectly, and that's the whole point of reconciliation--to get from ambiguous text name to precisely identified entities. For instance, given the text **"apple"**, a reconciliation service probably should return the **Apple Inc.** company, the **apple fruit**, and **New York city** (also known as the Big Apple).

Entities are identified by strong identifiers in some particular identifier space.” (aka, URI: <http://id.loc.gov/authorities/subjects/sh85006106>)

Open Refine

— — —

Locations

data.csv Permalink

Open... Export ▾ Help

14425 records

Extensions: undefined ▾ RDF ▾

Show as: rows records Show: 5 10 25 50 records

« first < previous 1 - 10 next > last »

Food	City	Original city name	City URI	City 2	City 3	Original city name	City 3 URI	City 4	County	Original county	County URI	County
	<div>San Francisco</div> <div>Choose new match</div>	San Francisco	http://vocab.getty.edu/tgn/7014456			<div>edit</div>			<div>San Francisco</div> <div>Choose new match</div>	San Francisco	http://vocab.getty.edu/tgn/1002859	
	<div>Santa Rosa</div> <div>Choose new match</div>	Santa Rosa	http://vocab.getty.edu/tgn/2014133						<div>Sonoma</div> <div>Choose new match</div>	Sonoma	http://vocab.getty.edu/tgn/7014516	

Open Refine

Geographic Locations



Abby_cushman_metadata.csv Permalink

Open... Export ▾ Help

Facet / Filter Undo / Redo 2822

Refresh

Reset All

Remove All

⌵ Street Address change invert reset

279 choices Sort by: name count

Cluster

12100 Skyline Drive 1

1241 North State Street 2

1243 Miller Street 1

1245 North Dearborn Street 1

exclude

1246 Lexington Street 1

1251 South Newberry Street 1

1253 South Union Avenue 1

1254 Jefferson Street 1

1300 North Ogden Avenue 1

1309 South Peoria Street 1

1311 South Morgan Street 2

1320 Prairie Avenue 1

1 matching records (14425 total)

Extensions: undefined ▾ RDF ▾

Show as: rows records Show: 5 10 25 50 records

« first < previous 1 - 1 next > last »

	Street Address	FullAddress	FullAddressRecon	Longitude	Latitude	GeoURI	Street Address 2	Stree
0								
3	1245 North Dearborn Street	1245 North Dearborn Street, Chicago, Cook, Illinois, United States	<div>{ "results": [{ "address_components": [{ "long_name": "1245", "short_name": "1245", "types": ["street_number"] }, { "long_name": "North Dearborn Street", "short_name": "N Dearborn St", "types": ["route"] }, { "long_name": "Central", "short_name": "Central", "types": ["neighborhood", "political"] }, { "long_name": "Chicago", "short_name": "Chicago", "types": ["locality", "political"] }, { "long_name": "Cook County", "short_name": "Cook County", "types": ["administrative_area_level_2", "political"] }, { "long_name": "Illinois", "short_name": "IL", "types": ["administrative_area_level_1", "political"] }, { "long_name": "United States", "short_name": "US", "types": ["country", "political"] }, { "long_name": "60610", "short_name": "60610", "types": ["postal_code"] }, { "formatted_address": "1245 N Dearborn St, Chicago, IL 60610, USA", "geometry": { "location": { "lat": 41.905304, "lng": -87.629654 }, "location_type": "ROOFTOP", "viewport": { "northeast": { "lat": 41.9066529802915, "lng": -87.62830501970849 }, "southwest": { "lat": 41.9039550197085, "lng": -87.63100298029151 } } }, "place_id":</div>	-87.629654	41.905304	http://maps.google.com/maps?q=41.905304,-87.629654		

Open Refine

Corporate
Names

Metadata csv [Permalink](#)

Open... Export ▾ Help

14425 records Extensions: undefined ▾ RDF ▾

Show as: **rows** records Show: 5 10 25 50 records Sort ▾

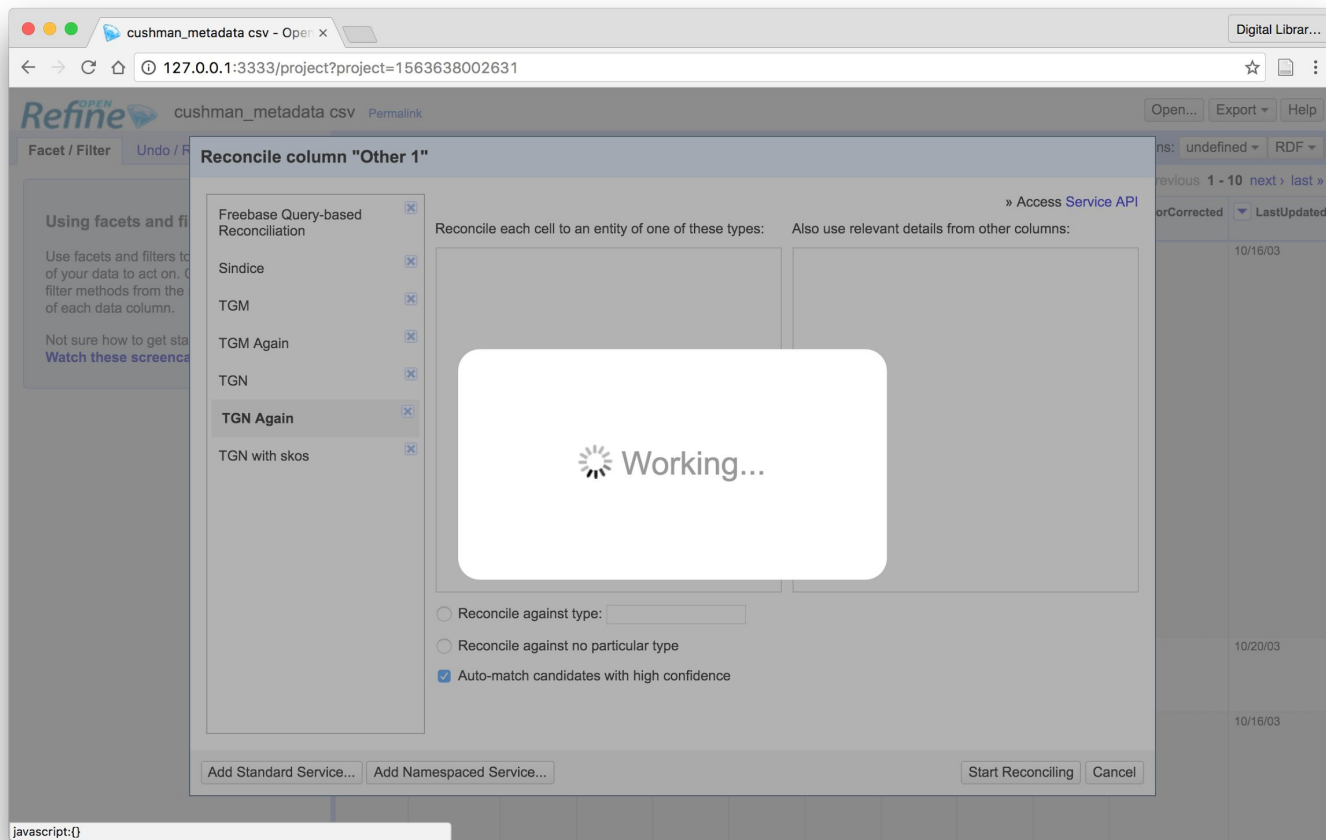
« first < previous 1 - 10 next > last »

as ▾ Corporate Names 1	Corporate1Text	Corporate1URI	Original Corporate	Corporate Names 2	Corporate2Text	Corporate2URI
Motorola, Inc. Choose new match		http://dbpedia.org/resource/Motorola,_Inc	Motorola, inc.	Admiral (Chicago, Ill.) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new topic	Admiral (Chicago, Ill.)	
Guinness Brewery Choose new match		http://dbpedia.org/resource/Guinness_Brewery	Guinness (Firm)	Air India Choose new match		http://dbpedia.org/resource/Air_India

OpenRefine

— — —

Lots of time
spent here



RDF Mapping

— — —
38 of 90
fields
mapped
(42%)

3 new
fields
created
(lat, long,
Google Maps
uri)

The screenshot shows the Refine web interface with the 'Abby_cushman_metadata.csv' dataset loaded. The 'RDF Schema Alignment' dialog is open, displaying the 'RDF Skeleton' tab. The dialog explains that the skeleton specifies how RDF data will be generated from the grid-shaped data, with cells in each record being placed into nodes within the skeleton. The 'Base URI' is set to <http://localhost:3333/>.

Available Prefixes: exif dc rdfrs foaf xsd owl rdf loc dcterms +add prefix +manage prefixes

PURL URI	Mapping	Target Node
loc:img add rdf:type	dc:title →	Description from Slide Mount cell
	dc:date →	Archive Date cell
	dcterms:description →	Camera settings cell
	dcterms:spatial →	Country URI URI add rdf:type
	dcterms:spatial →	State/Province URI URI add rdf:type
	dcterms:spatial →	County URI URI add rdf:type
	dcterms:spatial →	City URI URI add rdf:type

[Add another root node](#) [Save](#)

At the bottom of the dialog, there are 'OK' and 'Cancel' buttons. The status bar at the bottom of the browser window shows the URL: 127.0.0.1:3333/project?project=2283125642528#rdf-schema-alignment-tabs-schema.

RDF Preview

Abby_cushman_metadata.csv

Digital Librar...

127.0.0.1:3333/project?project=2283125642528

Refine

Abby_cushman_metadata.csv Permalink

Open... Export Help

Facet / Filter

Using fa

Use facet of your data filter method of each data

Not sure Watch this

RDF Schema Alignment

The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.

Base URI: <http://localhost:3333/> [edit](#)

RDF Skeleton

RDF Preview

This is a sample Turtle representation of (up-to) the first 10 rows

```
@prefix dc: <http://purl.org/dc/elements/1.1/> .
@prefix exif: <http://www.w3.org/2003/12/exif/ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix loc: <http://id.loc.gov/vocabulary/resourceTypes/> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix dcterms: <http://purl.org/dc/terms/> .

<http://purl.dlib.indiana.edu/iudl/archives/cushman/P01411> a loc:img ;
dc:title "A-5 = Golden Gate Bridge in Recl." ;
dc:date "Sep. 3, 1938"^^xsd:date ;
dcterms:spatial <http://vocab.getty.edu/tgn/7012149> , <http://vocab.getty.edu/tgn/7007157> , <http://vocab.getty.edu/tgn/1002859> , <http://vocab.getty.edu/tgn/1002859> ;
dcterms:references <http://maps.google.com/maps?q=37.7749295,-122.4194155> ;
dcterms:description "A-5 = G.G. bridge from south end." , ""magenta cast [fading of yellow dye]. Image was originally mounted in a glass enclosure. Before digitization, the image was removed and placed in a Wess Plastic, Inc. brand, 2" x 2", plastic mount. The description from the slide mount was then transferred to the new mount by the staff." ;
dcterms:identifier "IU Archives Number: 1411" , "Cushman Number:138.5" , "Roll ID: 406" , "Roll Number: 1" ;
exif:gpsInfo "-122.4194155" , "37.7749295" ;
dcterms:subject <http://id.loc.gov/vocabulary/graphicMaterials/tgm000464> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm006835> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm000464> .

<http://purl.dlib.indiana.edu/iudl/archives/cushman/P01412> a loc:img ;
dc:title "A-8 =Golden gate" ;
dc:date "Sep. 3, 1938 - Sep. 4, 1938"^^xsd:date ;
dcterms:spatial <http://vocab.getty.edu/tgn/7012149> , <http://vocab.getty.edu/tgn/7007157> , <http://vocab.getty.edu/tgn/1002859> , <http://vocab.getty.edu/tgn/1002859> ;
dcterms:references <http://maps.google.com/maps?q=37.7749295,-122.4194155> ;
dcterms:description "A-8=Red Ford & scene as in A7" , "magenta cast [fading of yellow dye], uneven dye fading." ;
dcterms:identifier "IU Archives Number: 1412" , "Cushman Number:138.8" , "Roll ID: 406" , "Roll Number: 1" ;
exif:gpsInfo "-122.4194155" , "37.7749295" ;
dcterms:subject <http://dbpedia.org/resource/Ford_Motor_Company> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm002109> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm002109> .

<http://purl.dlib.indiana.edu/iudl/archives/cushman/P01413> a loc:img ;
dc:title ""A-9=" ;
dcterms:spatial <http://vocab.getty.edu/tgn/7012149> , <http://vocab.getty.edu/tgn/7007157> , <http://vocab.getty.edu/tgn/1002859> , <http://vocab.getty.edu/tgn/1002859> ;
dcterms:references <http://maps.google.com/maps?q=37.7749295,-122.4194155> ;
dcterms:description "A-9=California, short name: CA" ;
dcterms:identifier "IU Archives Number: 1413" , "Cushman Number:138.9" , "Roll ID: 406" , "Roll Number: 1" ;
exif:gpsInfo "-122.4194155" , "37.7749295" ;
dcterms:subject <http://dbpedia.org/resource/California> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm002109> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm002109> .
```

OK

Cancel

127.0.0.1:3333/project?project=2283125642528#rdf-schema-alignment-tabs-preview

RDF Output

164,000+
triples

49 fields
mapped

```
Cushman.ttl

1 @prefix dc: <http://purl.org/dc/elements/1.1/> .
2 @prefix exif: <http://www.w3.org/2003/12/exif/ns#> .
3 @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
4 @prefix foaf: <http://xmlns.com/foaf/0.1/> .
5 @prefix owl: <http://www.w3.org/2002/07/owl#> .
6 @prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
7 @prefix loc: <http://id.loc.gov/vocabulary/resourceTypes/> .
8 @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
9 @prefix dcterms: <http://purl.org/dc/terms/> .
10
11
12 <http://purl.dlib.indiana.edu/iudl/archives/cushman/P01411> a loc:img ;
13   dc:title "A-5 = Golden Gate Bridge in Recl." ;
14   dc:date "Sep. 3, 1938"^^xsd:date ;
15   dcterms:spatial <http://vocab.getty.edu/tgn/7012149> , <http://vocab.getty.edu/tgn/7007157> , <http://vocab.getty.edu/tgn/1002859> , <http://vocab.getty.edu/tgn/1002859> ;
16   dcterms:references <http://maps.google.com/maps?q=37.7749295,-122.4194155> ;
17   dcterms:description "A-5 = G.G. bridge from south end." , ""magenta cast [fading of yellow dye]. Image was originally mounted in a glass enclosure.
18
19 was removed and placed in a Wess Plastic, Inc. brand, 2\ x 2\, plastic mount. The description from the slide mount was then transferred to the new mount
20 dcterms:identifier "IU Archives Number: 1411" , "Cushman Number:138.5" , "Roll ID: 406" , "Roll Number: 1" ;
21 exif:gpsInfo "-122.4194155" , "37.7749295" ;
22 dcterms:subject <http://id.loc.gov/vocabulary/graphicMaterials/tgm000464> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm006835> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm006835> ;
23
24 <http://purl.dlib.indiana.edu/iudl/archives/cushman/P01412> a loc:img ;
25   dc:title "A-8 =Golden gate" ;
26   dc:date "Sep. 3, 1938 - Sep. 4, 1938"^^xsd:date ;
27   dcterms:spatial <http://vocab.getty.edu/tgn/7012149> , <http://vocab.getty.edu/tgn/7007157> , <http://vocab.getty.edu/tgn/1002859> , <http://vocab.getty.edu/tgn/1002859> ;
28   dcterms:references <http://maps.google.com/maps?q=37.7749295,-122.4194155> ;
29   dcterms:description "A-8=Red Ford & scene as in A7" , "magenta cast [fading of yellow dye], uneven dye fading." ;
30   dcterms:identifier "IU Archives Number: 1412" , "Cushman Number:138.8" , "Roll ID: 406" , "Roll Number: 1" ;
31   exif:gpsInfo "-122.4194155" , "37.7749295" ;
32   dcterms:subject <http://dbpedia.org/resource/Ford_Motor_Company> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm002109> , <http://id.loc.gov/vocabulary/graphicMaterials/tgm002109> ;
33
34 <http://purl.dlib.indiana.edu/iudl/archives/cushman/P01413> a loc:img ;
35   dc:title ""A-9=
36
37 Golden Gate Bridge-
38
39 Marin End"" ;
40   dc:date "Sep. 3, 1938 - Sep. 4, 1938"^^xsd:date ;
41   dcterms:spatial <http://vocab.getty.edu/tgn/7012149> , <http://vocab.getty.edu/tgn/7007157> , <http://vocab.getty.edu/tgn/1002859> , <http://vocab.getty.edu/tgn/1002859> ;
42   dcterms:references <http://maps.google.com/maps?q=37.7749295,-122.4194155> ;
43   dcterms:description "A-9= G G bridge, Bay & SF from Marin" , ""magenta cast [fading of yellow dye]. Image was originally mounted in a glass enclosure.
44
45 was removed and placed in a Wess Plastic, Inc. brand, 2\ x 2\, plastic mount. The description from the slide mount was then transferred to the new mount
46 dcterms:identifier "IU Archives Number: 1413" , "Cushman Number:138.9" , "Roll ID: 406" , "Roll Number: 1" ;
```

Next Steps

— — —

- Triplestore with SPARQL endpoint (Fuseki)
- Tweak RDF mapping (lots of tweaks!)
- [Best Practices for Publishing RDF Vocabularies](#) (W3C)
- [Best Practices for Publishing Linked Data](#) (W3C)
- Evaluate output and refine workflow for local use (Fedora3 to Fedora4 migration)

Questions? Comments!

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Waiting...